REMARKS

Favorable reconsideration of the above-identified application is requested in view of the amendments made herein and the following comments. A Request for Continued Examination is attached herewith.

Claims 2, 8, 14 and 21 are canceled. Thus, Claims 1, 3-7, 9-13, 15-20 and 22-28 are pending, with Claims 1, 7, 13, 20 and 26-28 being independent.

Claims 1-3, 5-9, 11-15, 17-22, and 24-28 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 5,987,127, hereinafter *Ikenoue*, in view of U.S. Patent No. 6,243,480, hereinafter *Zhao.* Claims 4, 10, 16 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ikenoue* in view of *Zhao* and U.S. Patent No. 3,760,159, hereinafter *Davis*.

The independent claims have been amended to more clearly define subject matter relating to embedding additional information including updated predetermined information, by referring to stored location information associated with location of the additional information.

For example, Claim 1 now defines an image processing apparatus. A detecting unit detects all pieces of additional information that are embedded in image data. A storage unit stores the detected pieces of additional information in association with location information thereof. An analyzing unit analyzes the detected pieces of additional information and judges whether any of the detected pieces of additional information includes predetermined information that is updateable. The apparatus further includes an embedding unit that:

1) updates, when a judgment result of the analyzing unit is affirmative, the predetermined information included in the piece of additional information, and

embeds the piece of additional information including the updated predetermined information into the image data at a location where the piece of additional information is originally embedded, by referring to the stored location information, and

2) embeds, when the judgment result of the analyzing unit is negative, a new piece of additional information including updated information into the image data at a location that does not overlap locations where the detected pieces of additional information are embedded, by referring to the stored location information, the updated information being equivalent to the predetermined information.

As relied upon in the Official Action, neither *Ikenoue* nor *Zhao* disclose that subject matter.

Ikenoue extracts additional information from inputted image data to separate the additional information from image data. In addition, newly generated additional information and additional information updated according to an analysis is then newly embedded in the pre-embedded image data. However, *Ikenoue* does not teach or suggest that when extracting additional information from the inputted image data, information concerning the location of the extracted information from the inputted image data is extracted and stored. Specifically, since *Ikenoue* does not extract and store location information concerning the additional information, when embedding additional information, *Ikenoue* teaches that a search is newly performed for a location having a density level that enables the additional data to be embedded, without considering the original location in which the extracted additional information was embedded. The location in which the additional information can be embedded is determined by searching either for a location in the image exhibiting no change in

density or a location having a pre-determined density band in the case of half tones. See column 8, line 52 through column 9, line 3 of *Ikenoue*.

When lengthy additional information would be noticeable if embedded as is (column 7, lines 33-43), or when there is not a big enough area to embed all of the additional information (column 9, lines 4-13), *Ikenoue* divides the additional information into a plurality of blocks for embedding (column 16, lines 39-62). Marks showing the start and end of each block are added to respective blocks in order to link the additional information divided into a plurality of blocks when it is extracted at a later stage. See column 16, line 67 through column 17, line 7. However, as disclosed in step S1307 of Figure 25 and at column 13, lines 4-26, the locations of the additional information are *deleted* after the additional information has been extracted.

The search for areas in which to newly embed additional information divided into blocks is also performed according to the density band of the image as disclosed in Figures 29 and 33, as well as in corresponding sections of the description. In other words, in the case of new or updated additional information being embedded in an image after the extraction of additional information from the inputted image data, *Ikenoue* searches once again for locations in which the additional information can be embedded according to the density distribution of the image.

The Examiner states that: "Ikenoue does not disclose expressly that said embedding unit embeds the information at a location where said predetermined information is originally embedded." The Examiner relies on *Zhao* for a disclosure of that subject matter.

For at least those reasons, neither *Ikenoue* nor *Zhao* disclose a storage unit that stores the detected pieces of additional information in association with location information thereof, and embedding the detected pieces of additional information by referring to the stored location information, in combination with the other features in Claim 1.

Also, *Zhao* does not disclose that for which it is relied upon, *i.e.*, an embedding unit that embeds information at a location where predetermined information is originally embedded. Specifically, the Examiner relies on Figure 6(603) and column 11, lines 58-62 for a disclosure of embedding predetermined initial information, column 19, lines 26-31 for a disclosure of updating said predetermined information, and Figures 6 and 8 and column 19, lines 26-31 for a disclosure of embedding said predetermined information at a location where the said initial predetermined information is originally embedded.

Column 11, lines 58-62 of *Zhao* refers to "active watermarks." As discussed in column 11, lines 41-44 of *Zhao*, "the simplest way to make a watermark active is to include program code in it which can be executed by the computer system upon which the digital representation is currently resident." Column 11, lines 49-56 discusses the creation of an active watermark and states that:

> "FIG. 6 is an overview of a system 601 for making an active watermark 619. The watermark is made from watermark information 603, which contains owner information 605, access information 607, and owner-defined information 609 as before, but additionally contains code 611."

Column 11, lines 58-63 (identified in the Official Action) states that:

"Watermark information 603 and digital representation 613 are input into watermark maker 615, which outputs digital representation 617, which is digital representation 613 modified to include watermark 619 made from watermark information 603. Since watermark information 603 includes code 611, watermark 619 is an active watermark."

The purpose of an active watermark is to cause a computer system to run the code contained in the active watermark. Column 12, lines 46-49 in *Zhao* states that:

"An active watermark 619 can cause a computer system in which the active watermark is read to perform any action which can be described by the code contained in the active watermark."

Column 12, lines 16-22 in *Zhao* describes the action of the active watermark and states that:

"When program 701 is executed, a message indicating that digital representation 617 containing the active watermark has been displayed is sent via the Internet to a system that has been set up to monitor the display of digital representation 617, perhaps for the purpose of computing license fees."

The active watermark code creates what is called a "watermark agent." Figure 9 is *Zhao* shows a watermark monitoring system 901 that creates and dispatches a watermark agent 925 across a network 103 and responds to messages from the watermark agent 925 (column 14, lines 4-7). The watermark agent 925 is a program which is able to send itself from one node to another in network 103 (column 14, lines 7-8).

As noted above, the Examiner relies on column 19, lines 26-31 of *Zhao* for a disclosure of the subject matter relating to embedding updated additional data. However, that portion of *Zhao* relied upon in the Official Action does not disclose that for which it is relied upon. That is, column 19, lines 26-31 of *Zhao* refers to a watermark agent sending a message to a host engine in a computer each time a watermark is used/displayed. Specifically, that portion of *Zhao*, column 19, lines 26-31 (emphasis added), states that:

> "A document with an active watermark could increment <u>a usage</u> <u>count maintained in agent engine 1003</u> for a node each time it was printed and agent 925 could read the count on its visit to the node, report the current count value back to the management database 903, and reset the counter."

The subject matter relied on by the Examiner, *i.e.*, column 19, lines 26-31, is not at all directed to updating information that is then embedded in a watermark. Rather, it is directed to operating an agent to survey and count the number of times a watermarked document is used/displayed. In fact, nowhere in *Zhao* is it disclosed that a watermark includes updated embedded information as referred to in Claim 1.

For at least those reasons, the alleged combination of *Ikenoue* and *Zhao*, as proposed by the Examiner, does not disclose the combination of features defined by Claim 1, and Claim 1 is allowable.

Claims 7, 13, 20 and 26-28 are allowable for similar reasons as Claim 1 with regard to similar claim language.

Claims 3, 5, 6, 9, 11, 12, 15, 17-19, 22, 24 and 25 are allowable at least by virtue of their dependence from allowable independent claims.

Claims 4, 10, 16 and 23 are rejected as being unpatentable over *Ikenoue* in view of *Zhao* and further in view of U.S. Patent No. 5,987,127, hereinafter *Davis*. *Davis* does not overcome the deficiencies of the rejections of the independent claims from which Claims 4, 10, 16 and 23 depend. For at least that reason, they are allowable too.

Based on the above-observations, it is respectfully requested that all the rejections set forth be reconsidered and withdrawn. Should any questions arise in connection with this application, or should the Examiner feel that a teleconference would be helpful in resolving any remaining issues pertaining to this application, the undersigned requests that he be contacted at the number indicated below.

Respectfully submitted,

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